

Product Specification

8-Port Gigabit Managed Industrial Switch

IGS-801M

Version 1.0

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Change History:

Revision	Date	Author	Change List
Version 1.0	2009/07/20	Kent Kang	Initial release

Author	Kent Kang	Editor:	Kent Kang
Reviewed by:	Kent Kang	Approved by:	Tom Shih

1. PRODUCT DESCRIPTION

The PLANET **IGS-801M** is **8-Port 10/100/1000Mbps** Industrial Gigabit Ethernet Switch with non-blocking wire-speed performance and new slim type with IP-30 metal shape for easily deployment in Heavy Industrial demanding environments.

High Gigabit Performance / Wire-Speed Switching

With a **16Gbps** internal switching fabric, the IGS-801M Industrial Gigabit Ethernet Switch can handle extremely large amounts of data in a secure topology linking to a backbone or high capacity servers. The IGS-801M Industrial Gigabit Ethernet Switch has 8K MAC Address table and offers wire-speed packets transfer performance without risk of packet loss. The Gigabit ports with 9K jumbo packet support can handle large amounts of data transmission in a secure topology linking to a backbone or high-power servers. The high data throughput of the device makes it ideal for most Gigabit environments.

Tough, Environmentally Hardened Design

With IP-30 industrial case protection, the IGS-801M provides a high level of immunity against electromagnetic interference and heavy electrical surges which are usually found on plant floors or in curb side traffic control cabinets. The IGS-801M also provides a wide range of power supply options suitable for multiple industries and for worldwide operation. The feature of operating temperature range from **-10 to 60 Degree C** allows the Managed Industrial Switch to be placed in almost any difficult environment.

Robust Layer 2 Features

The IGS-801M supports robust advanced features including IEEE 802.1Q VLAN, Port link aggregation, QoS, broadcast storm control, IGMP snooping enhanced security and bandwidth utilization to fit a variety of applications. Via aggregation of supporting port, the IGS-801M allows the operation of high-speed trunk combining multiple ports. Maximum up to 4 ports of the IGS-801M can be assigned for 8 trunk groups and support fail-over as well. Additionally, its standard-compliant implementation ensures interoperability with equipments from other vendors.

Remote and Centralize Management installation

For efficient management, with its built-in **Web-based management**, the IGS-801M offers an easy-to-use and friendly configuration facility. Affording the current network to grow and expand, the IGSD-801M supports standard Simple Network Management Protocol (**SNMP**) and can be monitored via any standard-based management software. These features provide a cost-effective way to manage the devices from the Internet whenever you are at work or at home.

Fast Recovery to a Redundant Ethernet Network

The IGS-801M features strong and self-recovery capability to prevent interruptions and outside intrusions. It incorporates **Rapid Spanning Protocol (IEEE 802.1w RSTP)** and **redundant power supply system** into customers' industrial automation network to enhance system reliability and uptime in the harsh factory environments. It also protects customer's industrial network connectivity with switching recovery capability that is used for implementing fault tolerant ring and mesh network architectures.

2. PRODUCT FEATURES

➤ **Physical Port**

- ☐ 8-Port 10/100/1000Base-T RJ-45 copper interface

➤ **Layer 2 Features**

- ☐ Supports Auto-negotiation and Half-Duplex / Full-Duplex modes for all 10Base-T/100Base-TX and 1000Base-T ports.
- ☐ Auto-MDI/MDI-X detection on each RJ-45 port
- ☐ Prevents packet loss with back pressure (Half-Duplex) and IEEE 802.3x PAUSE frame flow control (Full-Duplex)
- ☐ High performance Store and Forward architecture, broadcast storm control, runt/CRC filtering eliminates erroneous packets to optimize the network bandwidth
- ☐ Back-plane (Switching Fabric): 16Gbps
- ☐ 9K Jumbo packet size support
- ☐ 8K MAC Address Table
- ☐ VLANs:
 - IEEE 802.1Q Tag-Based VLAN
 - Up to 64 VLANs groups, out of 4096 VLAN IDs
 - Port-Based VLAN
- ☐ Link Aggregation
 - Up to 4 trunk groups
 - Up to 8 ports per trunk group with 16Gbps bandwidth
 - IEEE 802.3ad LACP (Link Aggregation Control Protocol)
 - Cisco ether-channel (Static Trunk)
- ☐ Spanning Tree Protocol:
 - IEEE 802.1d classic Spanning Tree Algorithm
 - IEEE802.1w Rapid Spanning Tree Protocol

➤ **Quality of Service**

- ☐ 4 priority queues on all switch ports
- ☐ Traffic classification:
 - IEEE 802.1p CoS
 - IP TOS / DSCP
- ☐ Strict priority and Weighted Round Robin (WRR) CoS policies

➤ **Multicast**

- ☐ IGMP Snooping v1 and v2
- ☐ IGMP Query mode for Multicast Media application

➤ **Security**

- ☐ IEEE 802.1x Port-Based Authentication
- ☐ Port Mirroring to monitor the incoming or outgoing traffic on a particular port

➤ **Management**

- ☐ Remote WEB-based management
- ☐ Access through SNMP v1, v2c
- ☐ SNMP Trap for alarm notification of events
- ☐ Firmware upgrade through web interface
- ☐ Cable Diagnostics technology
- ☐ Supports PLANET Smart-DISCOVERY Utility for deploy management

➤ **Industrial Case / Installation**

- ☐ IP-30 Aluminum case protection
- ☐ DIN Rail and Wall Mount Design
- ☐ Redundant Power Design
- ☐ 12 to 48V DC, redundant power with polarity reverse protect function
- ☐ Supports EFT protection 6000 VDC for power line
- ☐ Supports 6000 VDC Ethernet ESD protection
- ☐ -10 to 60 Degree C operation temperature

3. PRODUCT SPECIFICATION

3.1 MAIN COMPONENT

Switch ASIC:	VITESSE VSC7398	X 1
CPU	On chip 8051 CPU: TF470	
Flash:	SST 39VF040	X 2
SRAM:	AS7C3256A-12JIN (256K bit)	X 2

3.2 FUNCTION SPECIFICATION

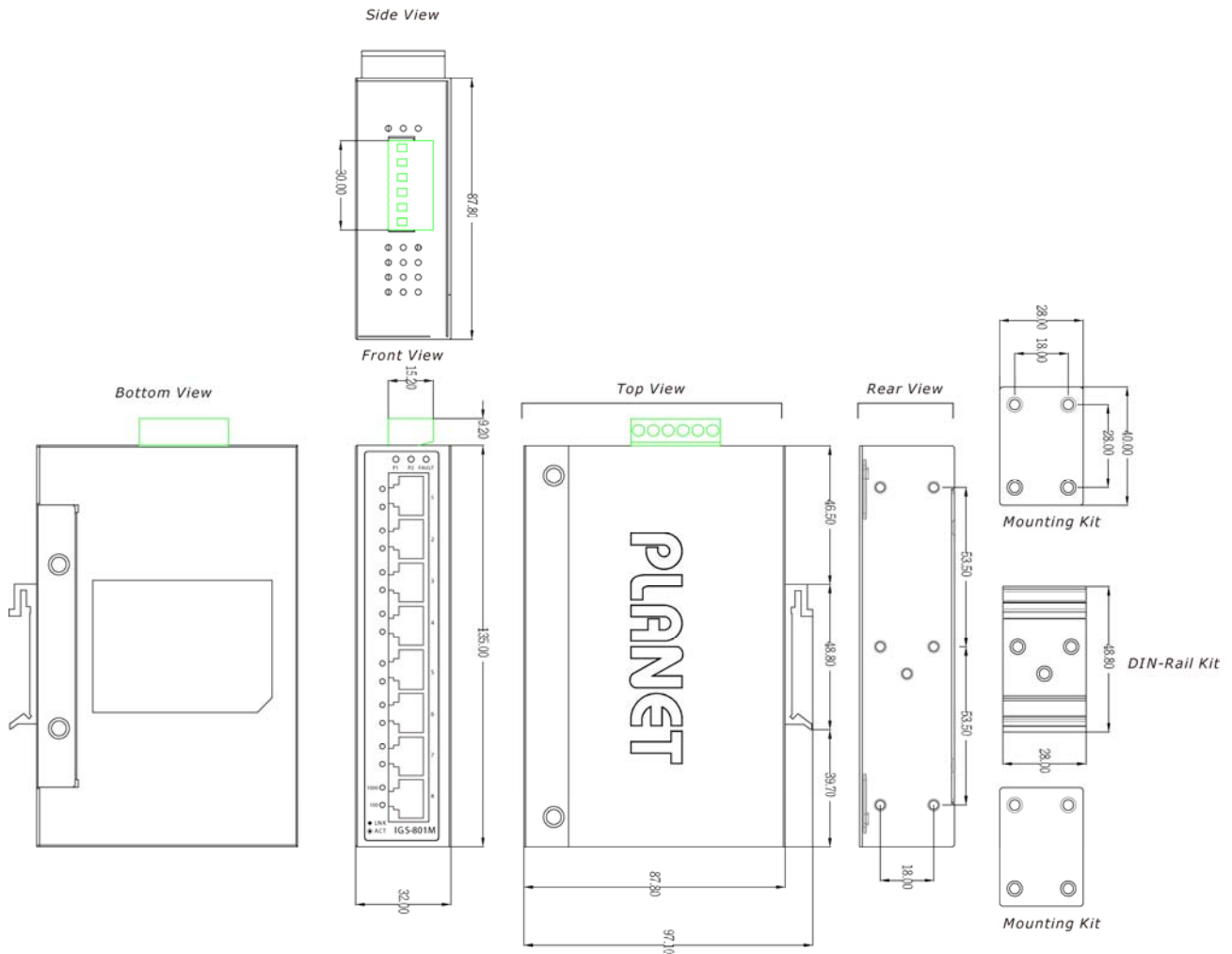
Product	IGS-801M
Hardware Specification	
Copper Ports	8 10/ 100/1000Base-T RJ-45 Auto-MDI/MDI-X ports
Switch Processing Scheme	Store-and-Forward
Switch Fabric	16Gbps
Throughput (packet per second)	11.9Mpps
Address Table	8K entries
Share Data Buffer	176 kilobytes on-chip frame buffer
Flow Control	IEEE 802.3x Pause Frame for Full-Duplex Back pressure for Half-Duplex
Jumbo Frame	9Kbytes
LED	System: Power 1, Power 2, Fault Alarm Ports: 10/100 Link/Act 1000 Link/Act
Installation	DIN rail kit and wall mount ear
Layer 2 Function	
System Configuration	Web Browser, SNMPv1, v2c monitor, SNMP Trap
Port configuration	Port disable/enable. Auto-negotiation 10/100/1000Mbps full and half duplex mode selection. Flow Control disable / enable.
VLAN	802.1Q Tagged Based VLAN ,up to 64 VLAN groups Port-Based VLAN, up to 8 VLAN groups
Port trunking	IEEE 802.3ad LACP / Static Trunk Support 4 groups of 8-Port trunk support
QoS	Traffic classification based, Strict priority and WRR 4-level priority for switching - 802.1p priority - DSCP/TOS field in IP Packet

IGMP Snooping	IGMP (v1/v2) Snooping, up to 256 multicast Groups IGMP Querier mode support
Storm Control	<ul style="list-style-type: none"> • Broadcast storm control • Multicast storm control • Flooded Unicast storm control
SNMP MIBs	RFC-1213 MIB-II IF-MIB RFC-1493 Bridge MIB RFC-2863 Interface MIB Q-Bridge MIB RMON Group 1 statistics
Standards Conformance	
Regulation Compliance	FCC Part 15 Class A, CE
Standards Compliance	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX/100Base-FX IEEE 802.3z Gigabit SX/LX IEEE 802.3ab Gigabit 1000T IEEE 802.3x Flow Control and Back pressure IEEE 802.3ad Port trunk with LACP IEEE 802.1d Spanning tree protocol IEEE 802.1w Rapid spanning tree protocol IEEE 802.1p Class of service IEEE 802.1Q VLAN Tagging IEEE 802.1x Port Authentication Network Control
Stability testing	IEC60068-2-32(Free fall) IEC60068-2-27(Shock) IEC60068-2-6(Vibration)

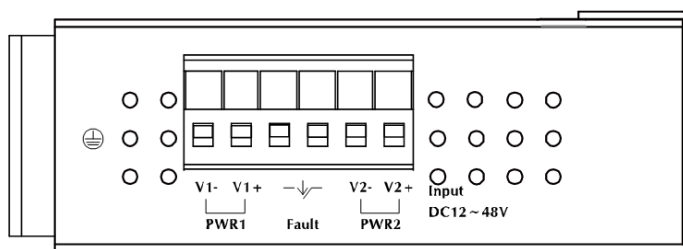
3.3 PHYSICAL SPECIFICATIONS

- **Dimensions:**
135mm x 87mm x 32mm (W x D x H)
- **Weight:**
473g

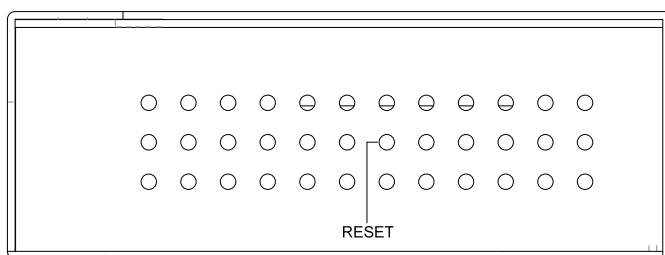
■ Panel Layout



■ Top Panel:



■ Bottom Panel:



LED definition

■ System

LED	Color	Function	
P1	Green	Lit:	Power 1 is active
		Off:	Power 1 is inactive
P2	Green	Lit:	Power 2 is active
		Off:	Power 2 is inactive
FAULT	Green	Lit:	Indicate the either Power 1 or Power 2 has no power
		Off:	No failure

■ Port-1 to Port-8 10/100/1000Base-T

LED	Color	Function	
1000	Green	Lit:	Indicate the port is successfully connecting to the network at 1000Mbps
		Blinking:	Indicate that the port is actively sending or receiving data over that port.
		Off:	Indicate that no device attached or it is successfully connecting to the network at 10Mbps or 100Mbps.
100	Green	Lit:	Indicate the port is successfully connecting to the network at 100Mbps or 10Mbps.
		Blinking:	Indicate that the port is actively sending or receiving data over that port.
		Off:	Indicate that no device attached or it is successfully connecting to the network at 1000Mbps.

3.4 ENVIRONMENTAL SPECIFICATION

Operating:

Temperature: -10°C ~60 Degree C
Relative Humidity: 5% ~ 95% (non-condensing)

Storage:

Temperature: -10°C ~60 Degree C
Relative Humidity: 5% ~ 95% (non-condensing)

3.5 ELECTRICAL SPECIFICATION

Power requirement: 12~48 VDC, Redundant power with polarity reverse protection function

Power consumption:

Status	AC Input Voltage	Current (A)	Power Consumption (Watts / BTU)
Power ON	12V	0.45A	5.4W / 18.41BTU
	24V	0.23A	5.52 / 18.82BTU
	36V	0.15A	5.4W / 18.41BTU
	48V	0.11A	5.28W / 18.00BTU
Full Load (Port-1 to Port-10 Link Up)	12V	0.68A	8.16W / 27.83BTU
	24V	0.34A	8.16W / / 27.83BTU
	36V	0.2A	7.2W / 24.55BTU
	48V	0.16A	7.68W / 26.19BTU

3.6 REGULATORY COMPLIANCE

FCC Part 15 Class A, CE

Stability Testing:

- IEC60068-2-32 (Free fall),
- IEC60068-2-27 (Shock),
- IEC60068-2-6 (Vibration)

3.7 REALIABILITY

MTBF > 50,000 hrs @ 25 degree C

3.8 BASIC PACKAGING

- Industrial Gigabit Ethernet Switch x 1
- User's manual CD x 1
- Quick Installation guide x 1
- DIN rail kit x 1
- Wall mount kit x 1

3.9 PACKING DIMENSION

Dimension: 410mm (W) x 310mm (D) x 265mm (H)

Weight: 2.68kg (Goss weight)

18pcs in one carton